**THANKS FOR PURCHASING PRODUCT**

# I-ARC180

IGBT INVERTER **DC**
**MMA/LIFT TIG**
WELDING MACHINE

# ASSEMBLY AND OPERATING INSTRUCTIONS

（SUITABLE FOR 220~240V）

# SAFETY PRECAUTIONS

**Follow these precautions carefully. Improper use of any welder can result in injury or death.**

1. ONLY CONNECT WELDER TO A POWER SOURCE FOR WHICH IT WAS DESIGNED. The specification plate on the welder lists this information. When welding outdoors, only use an extension cord intended for such use.

2. ONLY OPERATE WELDER IN DRY LOCATIONS and on concrete floor. Keep area clean and uncluttered.

3. KEEP ALL COMBUSTIBLES AWAY FROM WORK SITE
4. DO NOT WEAR CLOTHING THAT HAS BEEN CONTAMINATED with grease or oil.
5. KEEP CABLES DRY AND FREE FROM OIL AND GREASE and never coil around shoulders.
6. SECURE WORK WITH CLAMPS or other means; don't over reach when working.
7. NEVER STRIKE AN ARC ON A COMPRESSED GAS CYLINDER
8. DON'T ALLOW THE INSULATED PORTION OF THE ELECTRODE HOLDER TO TOUCH THE WELDING GROUND WHILE CURRENT IS FLOWING.
9. SHUT OFF POWER AND UNPLUG MACHINE WHEN REPAIRING OR ADJUSTING. Inspect before every use. Only use identical replacement parts.
10. FOLLOW ALL MANUFACTURER'S RULES on operating switches and making adjustments.
11. ALWAYS WEAR PROTECTIVE CLOTHING when welding. This includes: long sleeved shirt (leather sleeves), protective apron without pockets, long protective pants and boots. When handling hot materials, wear asbestos gloves.
12. ALWAYS WEAR A WELDER'S HELMET WITH PROTECTIVE EYE PIECE when welding. Arcs may cause blindness. Wear a protective cap underneath the helmet.
13. WHEN WELDING OVERHEAD, BEWARE OF HOT METAL DROPPINGS. Always protect the head, hand, feet and body.
14. KEEP A FIRE EXTINGUISHER CLOSE BY AT ALL TIMES.
15. DO NOT EXCEED THE DUTY CYCLE OF THE MACHINE. The rated cycle of a welding machine is the percentage of a ten minute period that the machine can operate safely at a given output setting.
16. KEEP ALL CHILDREN AWAY FROM WORK AREA. When storing equipment, make sure it is out of reach of children.
17. GUARD AGAINST ELECTRIC SHOCK. Do not work when tired. Do not let body come in contact with grounded surfaces.

## 1. MAIN USAGE AND THE RANGE OF USAGE (APPLICATIONS):

I-ARC180 inverse arc welder is produced with international advanced technology and is a new range of welding machines using IGBT. It has the performance and efficiency that cannot be compared to the traditional welder. The welding current is infinitely and independently adjustable. Quiet with few spatters, all ferrous metal, copper and stainless steel materials can be welded from all positions. The welder works between 20A and 180A. It is compact, light in weight and easy to use. It is particularly suitable for plant and mine, construction and maintenance sectors.

## 2. OPERATING CONDITION AND WORK SURROUNDING

**1. Operating condition:**

Voltage of power source: single phase, AC 220/230/240 V±10% Frequency: 50/60Hz
Reliable grounding protection

**2. Work surrounding**

(1) Relative humidity: ≤90% (average monthly temperature≤20℃)

(2) Ambient temperature: -10℃ - 40℃

(3 The welding site should be free of harmful gases, chemicals, molds and flammable, explosive or corrosive materials

(4) Avoid operating in damp or wet conditions

## 3. MAIN TECHNICAL SPECIFICATIONS

| Model | | I-ARC 180 |
|---|---|---|
| Power Supply Voltage | | AC220/230/240V (Single phase),50/60Hz |
| MMA | No-load Voltage | 70V |
| | Welding Cur. Adjusting Range | 20-180A |
| | Rated Output Current | 180A |
| | Rated Duty Cycle | 35% |
| Mass | | 5.8kg |
| Protection Class of enclosure | | IP21S |

## 4. OPERATING INSTRUCTIONS

a. Before welding, the operator should read the operating instructions carefully and use the welder according the process specifications.

b. Check the welder appearance for any damage before operation.

c. To ensure safe operation, the welder must be grounded correctly according to your local power supply system using a $4mm^2$ lead to connect the welder to the ground.

d. Welding should only be carried out in dry and well ventilated areas. Surrounding objects should not be less than 0.5m away from the welder.

e. Check the welder output connector for tightness.

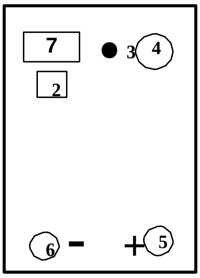
f. The welder cannot be moved and the cover cannot be opened while the power is on and welding operation is carried out.

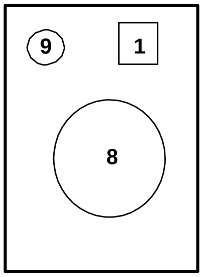
g. The welder should be cared for, used and managed by trained personnel.

h. Power source: 220/230/240V±10% current 15KVA.

## 5. SKETCH OF THE PANEL FUNCTION

**FRONT PANEL** **BACK PANEL**




1. power switch 2. MMA/TIG switch 3. Over-temperature indicator
4. Amps control 5.Output "+"terminal 6. Output "-" terminal
7. LED display 8. Fan 9. Power cable connection

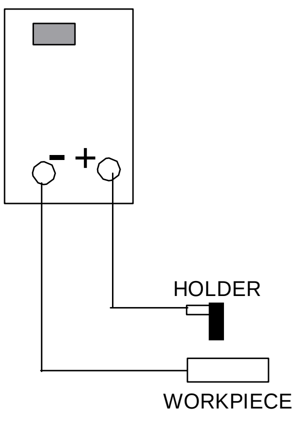
## 6. METHOD OF THE OPERATION

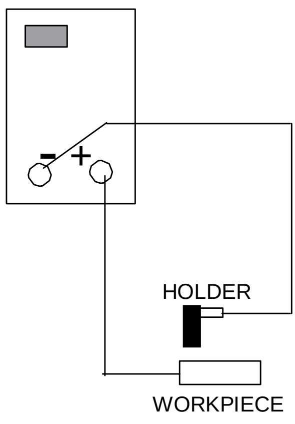
### 6-1. Hand welding with electrode (MMA)

① Put switch "2" (MMA/TIG switch) onto the position "MMA".
Select empirical formula: I=40*d ,d is dia. of the electrode.

② Notice positive and negative connection during welding.

A. Negative connection B. Positive connection



**6-2.DC ARGON ARC WELDING (LIFT TIG)**

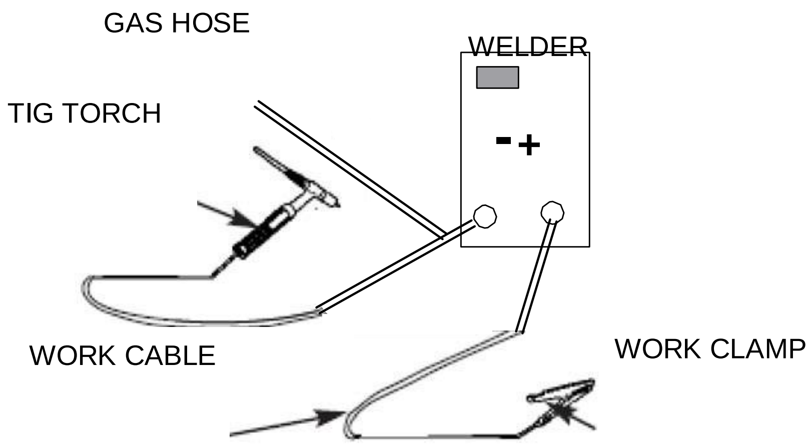
① Put switch "2" (MMA/TIG switch) onto the position "TIG".

② Connect gas inlet pipe of the welding torch to argon bottle.

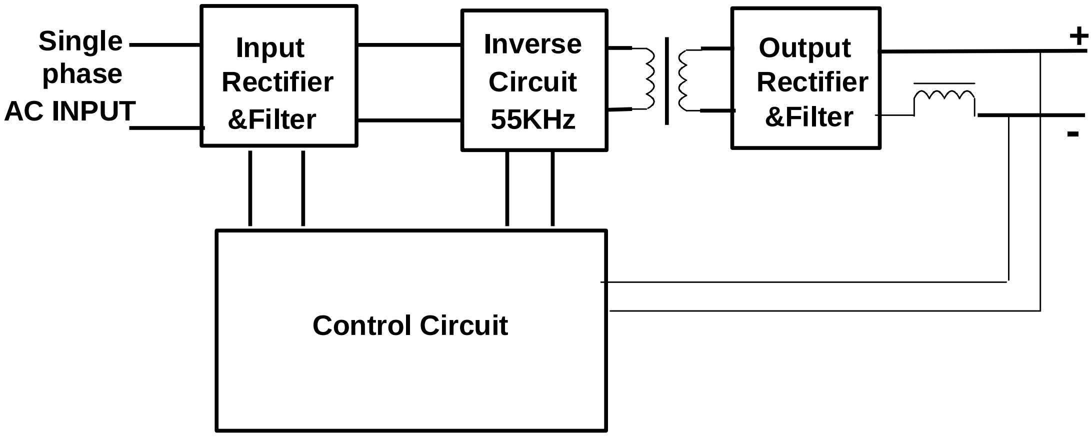
③ Testing gas: open the argon bottle valve and switch on the flow meter, select suitable argon flow.

④ Select suitable welding current (Knob “4”) according to thickness of the work piece to be welded.

⑤When the welding operation is finished, close argon bottle valve and turn power off.



## 7. SYSTEMATIC BLOCK DIAGRAM




## 8. TROUBLES AND PROBLEM SOLVING

| Trouble | Causes | Problem solving |
|---|---|---|
| Power light is not lit | 1. No electricity at input<br>2. Switch power fails | 1. Check incoming line<br>2. Replace the switch |
| Fan not rotating | 1. Fan power line is off<br>2. Fan enclosure blockage<br>3.The fan fails<br>4. Welder fails | 1. Reconnect the line<br>2. Remove blockage<br>3. Replace fan<br>4. Maintenance or service |
| Warning lamp lights<br>No output of welder | 1. Overheat protection<br>2. Short interval of welder switching on and off<br>3. Short between output + and output - or Welding electrode striking on the work piece<br>4.Welder fails | 1. Weld after cooling<br>2. Extend on-off time<br>3. Move electrode<br>4.Maintenance or service |
| Output current decreased | 1. Input voltage is low<br>2. Input line is too thin | 1. Increase AC voltage stabilizer (over 5KVA)<br>2. Replace with larger power cable |
| Current cannot be regulated | 1. Connection line of the potentiometer is off<br>2. Potentiometer for current regulation fails | 1. Reconnect the line<br>2. Replace potentiometer |

## 9. ACCESSORIES: SEE PACKING LIST PLEASE

### PACKING LIST

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

| | | | |
|---|---|---|---|
| *I-ARC 180 Welding machine* | *1* | | |
| *Operation instructions* | *1* | | |
| *Certificate of quality* | *1* | | |
| *TIG Torch* | *1* | *optional accessory* | |
| *Ground clamp+cable* | *1* | | |
| *Welding holder+cable* | *1* | | |

**No.**

— — — — — — — — — — — — — — — — — — — — — — — — — — — — —

## Certificate of quality

**Name of product: DC MMA/TIG WELDING MACHINE**

**Type of product: I-ARC180**

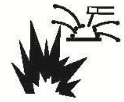
**Packing No: _______________**

**Test results of this welder fulfils_____________**

**__________technical requirements and its release**

**from the works is granted.**

**Inspector _________Date___________.**

|  |  |  |  |
|---|---|---|---|
| **WARNING** | ● Do not touch electrically live parts or electrode with skin or wet clothing.<br>● Insulate yourself from work and ground. | ● Keep flammable materials away. | ● Wear eye, ear and body protection. |
| Spanish<br>**AVISO DE PRECAUCION** | ● No toque las partes o los electrodos bajo carga con la piel o ropa mojada.<br>● Aislese del trabajo y de la tierra. | ● Mantenga el material combustible fuera del área de trabajo. | ● Protéjase los ojos, los oídos y el cuerpo. |
| French<br>**ATTENTION** | ● Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension.<br>● Isolez-vous du travail et de la terre. | ● Gardez à l'écart de tout matériel inflammable. | ● Protégez vos yeux, vos oreilles et votre corps. |
| German<br>**WARNUNG** | ● Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung!<br>● Isolieren Sie sich von den Elektroden und dem Erdboden! | ● Entfernen Sie brennbarres Material! | ● Tragen Sie Augen-, Ohren- und Körperschutz! |
| Portuguese<br>**ATENÇÃO** | ● Não toque partes elétricas e electrodos com a pele ou roupa molhada.<br>● Isole-se da peça e terra. | ● Mantenha inflamáveis bem guardados. | ● Use proteção para a vista, ouvido e corpo. |
| Japanese<br>**注意事項** | ● 通電中の電気部品、又は溶材にヒフやぬれた布で触れないこと。<br>● 施工物やアースから身体が絶縁されている様にして下さい。 | ● 燃えやすいものの側での溶接作業は絶対にしてはなりません。 | ● 目、耳及び身体に保護具をして下さい。 |
| Chinese<br>**警 告** | ● 皮肤或濕衣物切勿接觸帶電部件及銲條。<br>● 使你自己與地面和工件絕緣。 | ● 把一切易燃物品移離工作場所。 | ● 佩戴眼、耳及身體勞動保護用具。 |
| Korean<br>**위 험** | ● 전도체나 용접봉을 젖은 헝겁 또는 피부로 절대 접촉치 마십시요.<br>● 모재와 접지를 접촉치 마십시요. | ● 인화성 물질을 접근 시키지 마시요. | ● 눈, 귀와 몸에 보호장구를 착용하십시요. |
| Arabic<br>**تحذير** | ● لا تلمس الاجزاء التي يسري فيها التيار الكهربائي أو الالكترود بجلد الجسم أو بالملابس المبللة بالماء.<br>● ضع عازلا على جسمك خلال العمل. | ● ضع المواد القابلة للاشتعال في مكان بعيد. | ● ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك. |

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.

|  |  |  |  |
|---|---|---|---|
| ● Keep your head out of fumes.<br>● Use ventilation or exhaust to remove fumes from breathing zone. | ● Turn power off before servicing. | ● Do not operate with panel open or guards off. | **WARNING** |
| ● Los humos fuera de la zona de respiración.<br>● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases. | ● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio. | ● No operar con panel abierto o guardas quitadas. | Spanish<br>**AVISO DE PRECAUCION** |
| ● Gardez la tête à l'écart des fumées.<br>● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail. | ● Débranchez le courant avant l'entretien. | ● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés. | French<br>**ATTENTION** |
| ● Vermeiden Sie das Einatmen von Schweibrauch!<br>● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes! | ● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!) | ● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen! | German<br>**WARNUNG** |
| ● Mantenha seu rosto da fumaça.<br>● Use ventilação e exhaustão para remover fumo da zona respiratória. | ● Não opere com as tampas removidas.<br>● Desligue a corrente antes de fazer serviço.<br>● Não toque as partes elétricas nuas. | ● Mantenha-se afastado das partes moventes.<br>● Não opere com os paineis abertos ou guardas removidas. | Portuguese<br>**ATENÇÃO** |
| ● ヒュームから頭を離すようにして下さい。<br>● 換気や排煙に十分留意して下さい。 | ● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切って下さい。 | ● パネルやカバーを取り外したままで機械操作をしないで下さい。 | Japanese<br>**注意事項** |
| ●頭部遠離煙霧。<br>●在呼吸區使用通風或排風器除煙。 | ●維修前切斷電源。 | ●儀表板打開或沒有安全罩時不準作業。 | Chinese<br>**警 告** |
| ● 얼굴로부터 용접가스를 멀리하십시요.<br>● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시요. | ● 보수전에 전원을 차단하십시요. | ● 판넬이 열린 상태로 작동치 마십시요. | Korean<br>**위 험** |
| ● ابعد رأسك بعيداً عن الدخان.<br>● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها. | ● اقطع التيار الكهربائي قبل القيام بأية صيانة. | ● لا تشغل هذا الجهاز اذا كانت الاغطية الحديدية الواقية ليست عليه. | Arabic<br>**تحذير** |

**LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.**

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的説明以及應該使用的銲捍材料，並請遵守貴方的有関勞動保護規定。

이 제폼에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ بتمعن وافهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.